

## ABSTRACT

The  $n^+$ -GaAs layer 8 of the GaAs single crystal 10 is formed by epitaxial growth, followed by epitaxially growing the Si-layer 11 in the same epitaxial growth furnace, and then the aluminum electrode 12 is formed on the Si-layer 11 as an ohmic electrode. The Si-layer 11 can suppress the formation of a surface defect level on the surface of the  $n^+$ -GaAs layer 8 and can effectively prevent the formation of an unnecessary potential barrier. Since the Si-layer 11 has a smooth surface and is excellent in chemical stability, a good ohmic electrode can be obtained by forming the electrode 12 using aluminum or the like that has a suitable work function to the Si-layer 11.